

# B.A. Biology with Biology Education Concentration

The B.A. in Biology with a Concentration in Biology Education is designed for students who want to pursue teacher certification in biology. The B.A. has fewer courses in Chemistry, Physics, and Mathematics than the B.S. in Biology, and more upper division electives, providing students with greater latitude to design their own program of study. Students who pursue the B.A. in Biology *will not meet the minimum requirements* for admission to most graduate research programs in biological sciences or professional programs in the health sciences.

The B.A. degree requires that students complete all of the General Education Objectives (<https://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) described in the Academic Information section of this catalog. Students must also satisfy the core requirements listed below and the requirements of the Biology Education Concentration. All graduates of this degree program will earn a B.A. in Biology regardless of the concentration selected.

## General Education

The listing below includes program requirements that also fulfill General Education requirements.

Code	Title	Credits
Objective 1		6
Objective 2		3
Objective 3		3
Objective 4		6
Objective 5		7
Objective 6		6
<b>Students must fulfill Objective 7 or Objective 8</b>		<b>3</b>
Objective 7		
Objective 8		
Objective 9		3
<b>Total Credits</b>		<b>37</b>

### Required Core Courses:

Code	Title	Credits
BIOL 1101 & 1101L	Biology I and Biology I Lab	4
BIOL 1102 & 1102L	Biology II and Biology II Lab	4
BIOL 2206 & BIOL 2207	Cell Biology and Cell Biology Laboratory	4
BIOL 2209 & 2209L	General Ecology and General Ecology Laboratory	4
BIOL 3358	Genetics	3
BIOL 4417	Organic Evolution	3
BIOL 4491 & BIOL 4492	Seminar and Seminar	2
<b>Total Credits</b>		<b>24</b>

### Required Supporting Science Courses:

Code	Title	Credits
MATH 1160 or MATH 1153	Survey of Calculus Statistical Reasoning	3
CHEM 1111 & 1111L	General Chemistry I and General Chemistry I Lab	5
CHEM 1112 & 1112L	General Chemistry II and General Chemistry II Lab	4
<b>Total Credits</b>		<b>12</b>

## Concentration in Biology Education

*(Idaho teacher preparation requires 45 credits of Biology in the Single Subject Major)*

Students in the B.A. in Biology program with the Concentration in Biology Education may complete the requirements for teacher certification by completing the Professional Education Core and other required courses in the College of Education. Such students must apply for admission to the Teacher Education program (see the College of Education section of the catalog for details).

In addition to completing the Required Core courses and the General Education Requirements (<https://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>), students earning a B.A. in Biology in the Biological Education concentration must complete the following requirements.

### Required Courses:

Code	Title	Credits
BIOL 2233 & 2233L	Principles of Microbiology and Principles of Microbiology Lab	4
BIOL 4413	Biology Teaching Methods	3

### Elective Courses:

Code	Title	Credits
2 courses from Animal Biology list below		6-8
2 courses from Plant Biology list below		6-8
Biology Electives (any Biology course, to meet 45 credits minimum)		2-4

### Suggested Animal Biology Courses:

Code	Title	Credits
BIOL 3303 & 3303L	Principles of Animal Physiology and Principles of Animal Physiology Lab	4
BIOL 3310 & 3310L	Invertebrate Zoology and Invertebrate Zoology Lab	4
BIOL 3314 & 3314L	Comparative Vertebrate Anatomy and Comparative Vertebrate Anatomy Lab	4
BIOL 4423	General Parasitology	3
BIOL 4426 & 4426L	Herpetology and Herpetology Lab	4
BIOL 4427 & 4427L	Ichthyology and Ichthyology Lab	4

BIOL 4431 & 4431L	General Entomology and General Entomology Lab	4
BIOL 4438	Ornithology	4
BIOL 4441 & 4441L	Mammalogy and Mammalogy Lab	4
BIOL 4459 & 4459L	Fish Ecology and Fish Ecology Laboratory	4
BIOL 4462 & 4462L	Freshwater Ecology and Freshwater Ecology Lab	4
BIOL 4495	Animal Behavior	4

**Suggested Plant Biology Courses:**

Code	Title	Credits
BIOL 2213	Fall Flora	2
BIOL 2214	Spring Flora	2
BIOL 4412 & 4412L	Systematic Botany and Systematic Botany Lab	4
BIOL 4404	Plant Physiology	3
BIOL 4404L	Plant Physiology Lab <sup>1</sup>	1
BIOL 4405 & 4405L	Plant Form and Function and Plant Form and Function Lab	4
BIOL 4408	Plant Ecology	3
BIOL 4408L	Plant Ecology Lab <sup>1</sup>	1
BIOL 4442	Plant Animal Interactions	3

<sup>1</sup> These are optional labs.

**Degree Totals**

Code	Title	Credits
	Program Admission Requirements	0
	General Education	37
	Major Requirements (w/o General Education)	34
	Upper Division Free Electives	25
	Free Electives	24
	<b>Total Credits</b>	<b>120</b>

ISU Degree Requirements (<http://coursecat.isu.edu/undergraduate/degreerequirements/>)

ISU General Education (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>)

Major Academic Plan (MAP) (<https://www.isu.edu/advising/maps/>)